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REPORT

INFORMATION REPORT

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SUBJECT Guided Missile Development Activities of Branch Office No. 1 of Plant No. 88 Near Ostashkov

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DATE OF INFO 25X1

25X1

SUPPLEMENT TO REPORT NO

THIS IS UNEVALUATED INFORMATION

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1. Branch Office No 1 of Plant No 88, a design and project office for rocket weapons, was located on **Gorodomlya** Island in Lake **Seliger** near Ostashkov (57-08N, 33-05E). The office, just as Plant No 88 in Moscow/Podlipki, was subordinate to the **Ministry of Armaments** in Moscow. Some of the **Soviets** employed there were assigned to the Soviet Ordnance Office. Source did not know anything of the connections between the **Ministry of Armaments** and this Ordnance Office. In this connection, he pointed out that the Germans living on **Gorodomlya** Island were kept isolated from the outside world.

2. The branch office in the island consisted of design bureaus, some laboratories, and a small workshop. Only German publications dated from WW II and, to a lesser extent, western technical literature of a more recent date were available to the experts working at the branch office.

3. Besides **Soviets**, the personnel assigned to the office consisted of about 175 Germans, who were deported to the island from **Bleicherode** on 22 October 1946. Only 20 of the deported Germans had previously worked in the field of rocket weapons, the other engineers had come to Bleicherode only after the war, either from universities or from the Arado Aircraft Plant. They were to some extent forced by the **Soviets** and to some extent induced by promises made by Graduate Engineer Helmut Groettrup. Some of these persons were quartered in a camp near Moscow-Bolshevo, probably because they were originally scheduled to work in Plant No 88. None of them were able to furnish any information on the work done at this plant. This group was soon transferred to Ostashkov, where some engineers arrived as early as 1947. Since the composition of the group of German engineers detained in Ostashkov excluded the possibility of productive work in the field of rocket weapons, the **Soviets**, after some time, assigned individual engineers research missions in other fields.

4. The first order, which was to be completed by 1949, consisted in projects on long-distance rockets designed after the principle of the A-2 set. The G-4 through G-9

CLASSIFICATION SECRET

projects were completed in this connection. The main feature of these rockets was that they were not mounted in shell casings; they represented so-called cantilever [illegible] (selbsttragende Gerüste), and the walls of their fuel containers were simultaneously to form the outer skin. This was an idea of the experts from the Askania Plant. The rockets were to be powered by an improved version of the power plant installed in the A-4. The new power plant was designed with a static thrust of about 35 tons and was to be constructed in several modifications. It was planned to build sets with four combustion units and an auxiliary combustion unit in addition. The latter combustion chamber was to be designed for a pressure of 60 atmospheres and was to be used as a cruising unit after the fuel of the four main power units was consumed. Research was also conducted on a combustion unit rotatable in a plane by ±160°, the rotating mechanism being the old servo unit developed at the Askania Plant. This servo unit worked on the jet thrust principle. According to source, all the designs made were rather poor and had almost no practical value.

5. In 1949, the **Soviets** realized that the work done at Ostashkov was futile and demanded that a preliminary design be made for a rocket capable of a range of 10,000 km with pay load. Three days were available for the completion of this design. The project submitted was developed under the supervision of Herr Groettrup. The rocket projected was to be brought to a speed of Mach 3 by means of a true rocket motor and was then to travel to its target at a considerably less speed obtained by means of an air stream engine. However, the German experts declared themselves unable to construct the rocket as designed. The **Soviets** considered this a lack of efficiency on the side of Herr Groettrup and consequently relieved him of his assignment.

6. Another order given to the group of engineers working in Ostashkov was the construction of an AA rocket based on the design of the former German Wasserfall set. Much time had to be devoted to a new compilation of the construction data required for this set. The control system offered the greatest difficulties because no real expert was available in this field. Therefore, it was resolved to utilize the old Wisbaden type ground control system which operated on the basis of the location data transmitted by the rocket. However, the order for the design of an AA rocket was soon withdrawn by the **Soviets** as the project did not promise any results.

7. In the Ballistics Department (Sector 1) of Branch Office 1, the ballistic data for the E-6 through E-9 sets and the antiaircraft rocket were determined. Most of the efforts were centered on the recovery of the data previously calculated in Germany and hardly any new knowledge was gained. Aerodynamic problems were dealt with in the Aerodynamics Department (Sector 2).

8. New problems were worked on at the Engine Department (Sector 3), which was headed by Dr **Karl Umpfenbach**, a very capable engineer. One of these problems centered around the driving turbines for the pumps which were to be built in the form of an exhaust gas turbine utilizing the exhaust gas from the combustion chamber. The rocket was to be started with compressed air, and the turbine of the pumps as well as the combustion chambers were designed mutually to step up their power output. The decisive question in this connection was the functioning of the governors. This problem also remained unsolved, because competent experts were not available. According to Dr Umpfenbach's design, the gas required was bled from a tube provided with holes and laid around the combustion chamber at the place where it had the narrowest cross section. The gas was conducted into a cooling chamber, whereupon it was to be injected anew. The following initial values were laid down by the Soviets:

Gas input temperature: 1,200 to 1,800°C
End gas temperature in the line leading to the turbine: 200°C.

The alcohol injection pressure was to be tested in the 3 to 60 atmosphere range. For the tests to be conducted, only one Hempel type gas analysis apparatus was available. By rather primitive experiments it was determined that the gas constants hardly changed so that from this side unpleasant surprises were not to be expected. The first fuel to be injected was alcohol. Subsequently, kerosene, naphthaline, and Diesel oil were tested. The **Soviets** were greatly interested in the utilization of kerosene and did not set great store by the development of a process which would have made it possible to increase the concentration of the ethyl alcohol from 75 percent to 85 percent. The excessive degree of coking occurring with the utilization of kerosene was eliminated by the injection of chloride of barium, which had been dissolved in water. The physical and chemical properties of the kerosene delivered by the **Soviets** varied greatly. Available for the experiments was a one-ton oven for the development of gas and the turbine of an A-4 set. In late 1950, when the development work had reached a point that the first practical results were imminent, the **Soviets** stopped this project, apparently because they intended to complete it themselves. All the capable engineers who had been employed on the project, including Umpfenbach himself, were convinced that the **Soviets** would not be able to complete the project successfully in the near future. While working in the Power Plant Department, source was ordered to develop a method of decarbonizing an oven, which had used a nitric acid-kerosene mixture. At the same time, he was to submit proposals on how this coking process was to be prevented. 25X1 25X1

25X1 but had to abandon it again in the fall of this year when this work was still in its initial phase.

25X1 9. the amount of energy actually available at the end of the Laval type jet. The problem to be solved was whether the various dissociation constants retain their original values or whether a loss of power occurs. The first experiments made with an oven of 20 kg thrust had to be abandoned because of the destruction of the oven. The work undertaken by source had no result.

25X1 10. the only productive work was done at the Electrical Department (Sector 5) of Branch Office 1. On the basis of plans developed by Dr Hans Hoch, a so-called Bahnmodell (path model) was built for stability tests on the rocket, to be conducted in various flying positions. Preparations for the construction of such a model were already made at Bleicherode. The set was operated by a mechanic-electrical device, its main component being an electrical integrator. The values for the take-off weight, air throughput, initial acceleration, besides all aerodynamic data and the data on the location of the center of gravity were laid down in advance, while the control deflection remained to be determined. As long as the stability indicator was in zero position, the stability for the flight position selected was guaranteed. Five units of this model were built, i.e. four three-axle sets and one five-axle set, two axles of the set transmitting rotating forces. The sets, which were procured from institutes and universities, measured about 1.5 x 0.7 x 1.0 meters. Although the **Soviets** were enthusiastic about them, the German engineers were in agreement that their precision left much to be desired.

11. The group of engineers working on radio control devices at the Electrical Department (Sector 4) was not in a position to do productive work; the same applied to the organization working on measuring equipment.

12. The work of the Construction Department (Sector 5) was hampered by the shortage of materials and work places. Although the personnel assigned to this department was quite efficient, they were faced by the greatest difficulties, even if they only had to construct minor experimental units.

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9. Various research work was in progress at the Chemical Department (Section 7). Special problems were investigated, and methods were worked out how to determine the phosphor content of nitric acid. Methods of protecting steel against corrosion were also investigated. Other research work conducted at this department concerned itself with the best method of electroplating light metals with copper. Source furthermore studied the ignition properties of different types of fuels and other related problems.

10. By late 1952, the Soviets had apparently lost all interest in the activities of Branch Office 1. All secret work was discontinued and only non-classified projects were undertaken after that date. Source and several other engineers worked on a sine transmitter (Sinusgeber) for various frequencies.

11. In February or March 1951, a Soviet commission appeared at the installation and selected some engineers with experiences in the field of radio control devices. This group of engineers, which was headed by Dr Dr Hans Hoch, was moved to Moscow, where they had to sign contracts binding them to stay another four years in the U.S.S.R. Letters received from the Main Post Office in Moscow, post office box No 908, in March 1952, indicated that this group of engineers was merged with an organization working under Dr Buschbeck (fnu).

12. When asked the question whether he knew anything of a firing range for rockets located either near Tashkent or Stalingrad, [redacted] in 1947 or 1948, 25X1
several German engineers went to a place called Kapustin in the Kalmucks steppe. Kapustin at that time was a miserable village surrounded by deserted steppe land. Rocket sets were launched there. Technical installations were not available, and only a dirt track led to the place.

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List of Personnel of Branch Office No 1 of Plant No 88 in Ostashkov

1. Representatives of the Ministry of Armaments in Moscow:

Baidukov (fnu) /Baidukov/ In 1949 or 1950 he was replaced by

Vasilyev (fnu)

Professor Popedonsov (fnu) who left the Ministry and became an independent engineer

2. Representatives of the Ordnance Office:

Lieutenant Colonel Tyulin (fnu)

Colonel Korolov (fnu) Both officers visited Ostashkov several times.

Personnel of Branch Office No 1

3. Director

Fedor Giuliuvich /Yulyuvich or Zhyulyuvich ?/ Sukhomlinov 25X1 [redacted]

4. Chief engineers, directly subordinated to the director.

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Bosch-Kotsyubinskiy(fnu), [redacted]

Kurganov (fnu)

Pavel Vasilyev

5. Department I, the secret department, was subordinated to the chief engineers. This department included the passport section, the mail section, the archives, the blueprint section and the photographic laboratory. The personnel included two male and six female Soviet laborers and two German clerks.

25X1 Viktorianskiy(fnu) [redacted] was chief of Department I

6. Chief designers, also assigned to the chief engineers.

25X1 Engineer Kisilov (fnu) /Kiselev?/ Soviet liaison officer for the German designers [redacted]

25X1 Graduate Engineer Helmut Groettrup [redacted]

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25X1 Dr Hans Hoch

SECRET

25X1 [redacted]

25X1 [redacted]

Dr Waldemar Wolff

7. There were eight work sections (Sectors) subordinated to the chief designers.

8. Sector 1, in charge of ballistic calculations

25X1 Dr Waldemar Wolff	chief, a mathematician, [redacted] who was in charge of ballistics with Friedrich Krupp AG in Essen.
25X1 Dr Werner Schulz	a mathematician [redacted] with good qualifications. He returned to Germany in April 1952.
25X1 Dr Hans Reichardt	a very capable mathematician [redacted] who returned to Germany in April 1952.
25X1 Dr Schlier (fnu)	[redacted] an astronomist.
Hanke, Johannes	previously teacher at a grammar school, returned in April 1952.
Gende, Emil	a supply manager, who returned in April 1952.
Graduate Engineer Werner Mueller	a mathematician, who returned in April 1952.
25X1 Miss Anneliese Myrach	[redacted] a calculator whose father was also at Ostashkov.

Source did not remember the names of the other Germans working at Sector 1. The Soviet staff included:

25X1 Kandashev (fnu)	[redacted] mathematician.
Aburtina (fnu)	a female mathematician without outstanding capabilities.

9. Sector 2, in charge of aerodynamics.

25X1 Dr Werner Ahlbring	chief, [redacted] with technical knowledge. He returned to Germany in April 1952.
25X1 Mikhailchenkov (fnu)	Ahlbring's Soviet deputy, [redacted] one of the most intelligent and meanest of the Soviets.
Dr Robert Schwarz	from the Arado aircraft plant.
25X1 Engineer Karl Heinz Falkenmeyer	[redacted] former member of the DVL.
25X1 Graduate Engineer Gerd Conrad	[redacted] physicist, brother-in-law of Ahlbring.

SECRET

25X1

25X1 Dr Hammer, **Albert** [redacted] philologist, who returned to Germany in April 1952.

25X1 Engineer **Wenzel, Hans** [redacted] returned to Germany in April 1952.

25X1 Engineer Jurschik (fnu) /probably **Kurt Juschik**/ [redacted] He returned in April 1952.

25X1 Voss, Otto [redacted] a very skilled handicraft who returned in April 1952.

25X1 Engineer Heinz (?) Zielinny [redacted]

25X1 Engineer Hennig (fnu) [redacted] returned in April 1952.

25X1 Professor Helmut Friese [redacted] from the Dresden Institute of Technology, who returned there in April 1952.

25X1 **Solovev** (fnu) [redacted] the most important Soviet in Sector 2.

25X1 There were more Germans working here [redacted]

10. Sector 3, in charge of power units for rockets.

Dr Upfenbach, **Karl** chief, the only German who was an expert in this field.

Dr Engineer Heinrich Zeise

25X1 [redacted]

11. Sector 4, in charge of electric assemblies, was subdivided into three independent sections.

Engineer Gerd Mueller chief of the section in charge of Bahnmodelle (path models). He returned to Germany in April 1952.

Engineer Preikschat, **Fritz** chief of the section in charge of radio controls. He returned to Germany in April 1952.

Professor Wilhelm Schmetz chief of the section in charge of measuring instruments, returned in April 1952.

Sector 4 also included the following personnel:

Engineer Theodor Neumann
Graduate Engineer Mangs, **Karl**
Foreman Hans Mueller
Handicraft Zeise, **Fred**

12. Sector 5 in charge of the test stands and other construction work.

Engineer Jaffke, **Heinz**. chief, who returned in April 1952.

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13. Sector 7, worked in the field of chemistry

Dr Chem Franz Matthes chief, an early SED member who returned in April 1952.

Graduate Engineer Gerhard Siegmund	worked only temporarily in Sector 7 and returned to Germany in April 1952

14. Sector 9, the so-called workshop

Engineer Apel, **Erich**	chief, a man in his early thirties, who was released in April 1952 and will probably go to Oelsnitz in Saxony

15. Sector 11, the construction department

Graduate Engineer Plass, **Herman**	chief, who had worked on the manufacture of airframes at the Arado Aircraft Plant

16. Other Germans working at Ostashkov included:

Dr Walter Quessel	a mathematician for oscillations and vibrations
Dr Kurt Magnus	a physicist and expert for gyroscopic instruments
Professor Dr Theo Schmidt	a physicist
Engineer Fritz Viebach	launching expert for A-4 missiles
Scholz (fnu)	craftsman
Engineer Wohlfahrt, **Kurt**	
Engineer Pohle, **Max**	
Engineer Brunner, **Willi**	

17. Experts working at the Kapustin test field included:

Viebach, Wohlfahrt, Scholz, Dr Hoch, Pohle, Brunner and Dr Wolff.

25X1 [redacted] Comment:

Major General Gaidukov was reported to have been chief of a special technical commission in Bleicherode during the fall of 1946. . In November 1949, Professor Vasilyev was mentioned by Pravda as chief of the Plant of the Scientific Research Institute for Flying Equipment. A Colonel Vasilyev was reported in mid-1948 as officer in charge of television in the Soviet Zone of Germany.

Professor Pobedonostsev is reported for the first time. A Colonel Pobedonostsev was, in 1945 and 1946, reported as a member of Technical Office No 10 in Karlshorst. The plant in Bleicherode was subordinated to this office. In 1945 and 1946, a Colonel Korolyev and a Colonel Tyulin were reported as members of the Soviet staff of Nordhausen department. In 1946, a Lieutenant Colonel Korolev was commander of a rocket unit which, under the supervision of Viebach (fnu), moved to Nordhausen to practice firing rocket weapons. It is assumed that Korolyev and Korolov are identical.